

**Ford 05-16 and 17-24 Tie Rod and Drag Link Installation Instructions**

 **Before beginning any work, ensure the vehicle is secure, and follow good safety practices.**

1. Before removing your OEM, tie rod and drag link assemblies, measure from the center of the ball studs on each side, and write these measurements down to refer to later. Note – the passenger side tie rod end is an eye, not a ball stud, so measure from the inner edge of the eye to the opposite ball stud.
2. All parts that begin with TR belong to the tie rod assembly and all DL part numbers belong to the drag link assembly.
3. Thread jam nuts all the way down the tie rod ends. Install the bent Ninja Washers onto the adjusting sleeve with the bent side facing toward the adjusting sleeve.
4. Locate the tie rod ends and adjusting sleeve on both the passenger and driver sides. The passenger side tie rod ends will have notches in the jam nuts, indicating a left-hand thread. The adjusting sleeve will feature a ring machined into one end, near the flats, which also indicates left-hand threads on that side of the tube.
5. Please, coat the inside threads of the adjusting sleeve with a small amount of anti-seize, DO NOT apply anti- seize to the tie rod end threads. Getting any anti-seize in the area of the jam nuts can decrease the effectiveness of the jam nuts and possibly prevent the jam nuts from holding torque. If anti-seize is mistakenly applied to the rod end threads, use Brake-Kleen or other solvent to clean the threads completely.
6. Thread the tie rod ends into the adjusting sleeve, ensuring the correct thread direction. Thread until it reaches the jam nut. Wipe off any visible anti-seize.
7. Continue with the driver’s side of the tie rod and repeat the above instructions.
8. Now adjust the ends equally to set the distance between the ball studs to the same as the OE measurements you took earlier. Note – the passenger side tie rod end is an eye, not a ball stud, so measure from the inner edge of the eye to the opposite ball stud.
9. Now assemble the Drag link assembly, locate drag link adjusting sleeve and ends, follow the instructions as you did with the tie rod assembly. The passenger side has a long ball stud, and the jam nut is notched for left-hand threads.
10. Remove OEM tie rod and drag link assemblies.
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11. Before installing the ends, apply a light layer of grease to the top of the boot. This will create a lubricated surface between the boot and the joint, helping to reduce friction.
12. Install drag link first with the drag link end on the passenger/knuckle side (pointing down through the knuckle) then the pitman arm side. **Torque the pitman arm end castle nut to 75-82 ft/lbs**. Leave the jam nuts loose. After tie rod is installed (next) with toe specs set, rotate drag link adjusting sleeve to center the steering wheel.
13. Install the tie rod assembly. The passenger side tie rod attaches to the long ball stud on the drag link under the knuckle. **Torque castle nuts to 75-82 ft/lbs**. Leave jam nuts loose and use tape measure to set tow to factory specs.
14. Tighten all the jam nuts on the tie rods and drag links, **torque to 200 ft/lbs**. Then torque the set screws on the Drag link jam nuts to **8-10 ft/lbs**.
15. Attach steering stabilizer to taper sleeve in the pitman arm end. This taper sleeve is reversible for various applications (follow instructions from steering stabilizer manufacturer).
16. Be sure to test the steering lock-to-lock to check for any interference with wheels or other vehicle parts.
17. At this point we highly recommend engaging a professional to get the alignment set.
18. Once alignment is complete, bend the pointed tabs over the jam nut to secure jam nut. We recommend using a medium strength thread locker (blue Loctite 243 or blue Permatex 24206 or other preferred brand) under the jam nuts.
19. Using a paint marker across the jam nut and adjusting sleeve provides an easy visual indicator if the jam nuts have loosened.
20. Check jam nuts for tightness at 500 miles and monitor jam nuts regularly every 5000 miles or after oil changes for tightness.

Wrenches needed:

 WR106 – 42mm/44mm

 WR107 – 46mm/48mm

 WR108 – 50mm/52mm

*If you have any questions or concerns, please don’t hesitate to give us a call or email.*

Thank you,

Team Apex

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